Reverse Conducting Thyristors (Note 1)

$I_{T(AV)}$ / $I_{R(AV)}$ Tc=65°C Note 2 (Amps)	I_{TSM}/I_{RSM} (Amps × 10³) 50 Hz	60 Hz	$I_T{}^2t/I_R{}^2t$ @ 8.3 ms (A²sec × 10³)	I_{DRM} @ $T_{J(Max)}$ $V_{DRM(Max)}$ (mA)	V_{DRM} Range (Volts)	V_{RM} @ $T_{J(Max)}$ I_{RM} (Amps)	V_{RM} @ $T_{J(Max)}$ V_{RM} (Volts)	V_{TM} @ $T_{J(Max)}$ I_{TM} (Amps)	V_{TM} @ $T_{J(Max)}$ V_{TM} (Volts)	t_q (Max) @ $T_{J(Max)}$ (µsec)	Max di/dt @ $T_{J(Max)}$ (A/µsec)	Min dv/dt @ $T_{J(Max)}$ (V/µsec)
60 @ 81°C / 60 @ 65°C	1.09 / 1.09	1.2 / 1.2	6 / 6	15	200-600	190	2.45	190	2	20	200	300
150 @ 77°C / 60 @ 81°C	2.7 / 1.09	3 / 1.2	38 / 6	15	600-1200	190	2.05	470	1.8	30	200	300
150 @ 77°C / 60 @ 81°C	2.7 / 1.09	3 / 1.2	38 / 6	15	200-800	190	2.05	470	1.8	20	200	300
150 @ 82°C / 60 @ 88°C	2.7 / 1.09	3 / 1.2	38 / 6	15	600-1200	190	2.05	470	1.8	30	200	300
150 @ 82°C / 60 @ 88°C	2.7 / 1.09	3 / 1.2	38 / 6	15	200-800	190	2.05	470	1.8	20	200	300
250 @ 83°C / 100 @ 85°C	4.6 / 1.8	5 / 2	110 / 17	30	600-1200	310	2.05	780	1.75	30	200	300
250 @ 83°C / 100 @ 85°C	4.6 / 1.8	5 / 2	110 / 17	30	200-800	310	2.05	780	1.75	20	200	300
250 @ 83°C / 100 @ 85°C	4.6 / 1.8	5 / 2	110 / 17	30	600-1200	310	2.05	780	1.75	30	200	300
250 @ 83°C / 100 @ 85°C	4.6 / 1.8	5 / 2	110 / 17	30	200-800	310	2.05	780	1.75	20	200	300
400 @ 77°C / 150 @ 103°C	6.4 / 3.2	7 / 3.5	200 / 50	50	600-1200	1250	2.2	1250	2.2	30	200	300
400 @ 77°C / 150 @ 103°C	6.4 / 3.2	7 / 3.5	200 / 50	50	200-800	1250	2.2	1250	2.2	20	200	300
400 @ 89°C / 150 @ 102°C	6.4 / 3.2	7 / 3.5	200 / 51	80	2500	1200	4	600	2	35	300	700
400 @ 81°C / 150 @ 102°C	6.4 / 3.2	7 / 3.5	200 / 51	80	2500	1200	4	600	2	50	300	700
1000 @ 60°C / 400 @ 59°C	12.8 / 6.4	14 / 7	820 / 200	150	2500	2400	4.5	1000	2.1	35	300	700
1000 @ 47°C / 400 @ 59°C	12.8 / 6.4	14 / 7	820 / 200	150	2500	2400	4.5	1000	2.1	50	300	700

Note 1: Junction Temperature Range = −40 to 125°C
Note 2: Current Rating at 60 Hz, 180° Conduction, Half Sine

Gate Trigger Voltage and Current, TJ=25°C		ReJC		PACKAGE INFORMATION				
VGT (Volts)	IGT (mA)	SCR °C/W	Diode °C/W	Max Mounting Force or Torque	STYLE	Outline	TYPE NO.
3	150	.35	.40	210 lb-in / 180 kg-cm	M12 × 1.5 Stud	Metric	RCR70BY
3	200	.17	.35	420 lb-in / 360 kg-cm	M20 × 1.5 Stud	Metric	RCR150BX
3	200	.17	.35	420 lb-in / 360 kg-cm	M20 × 1.5 Stud	Metric	RCR150BY
3	200	.15	.30	1580 lbs / 7.1 KN	Press Pak	14.5 × 43 mm	FR150DX
3	200	..15	.30	1580 lbs / 7.1 KN	Press Pak	14.5 × 43 mm	FR150DY
3	250	.10	.20	700 lb-in / 600 kg-cm	M24 × 1.5 Stud	Metric	RCR300BX
3	250	.10	.20	700 lb-in / 600 kg-cm	M24 × 1.5 Stud	Metric	RCR300BY
3	250	.10	.20	2420 lbs / 10.8 KN	Press Pak	14.5 × 50 mm	FR300DX
3	250	.10	.20	2420 lbs / 10.8 KN	Press Pak	14.5 × 50 mm	FR300DY
4	350	.05	.10	3960 lbs / 17.7 KN	Press Pak	18 × 85 mm	FR500AX
4	350	.05	.10	3960 lbs / 17.7 KN	Press Pak	18 × 85 mm	FR500AY
4	350	.035	.10	6600 lbs / 30 KN	Press Pak	21 × 92 mm	FR600AX
4	350	.035	.10	6600 lbs / 30 KN	Press Pak	21 × 92 mm	FR600AW
4	350	.022	.07	7920 lbs / 35.6 KN	Press Pak	21 × 102 mm	FR1000BX
4	350	.022	.07	7920 lbs / 35.6 KN	Press Pak	21 × 102 mm	FR1000BW

Taping

STANDARD SPECIFICATIONS FOR TAPING OF MOLDED PACKAGE THYRISTORS AND TRIACS

TO-92 Package

Thyristor
CR02AM, CR03AM, CR04AM
Triac
BCR1AM
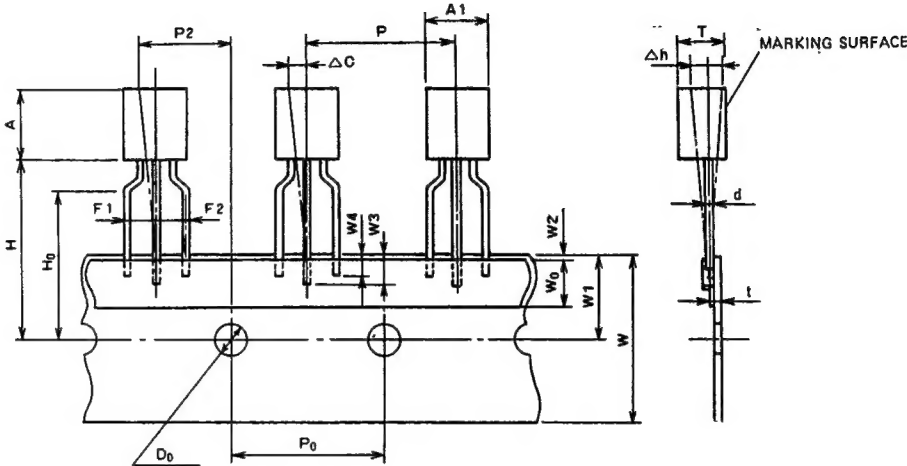
Taping dimensions

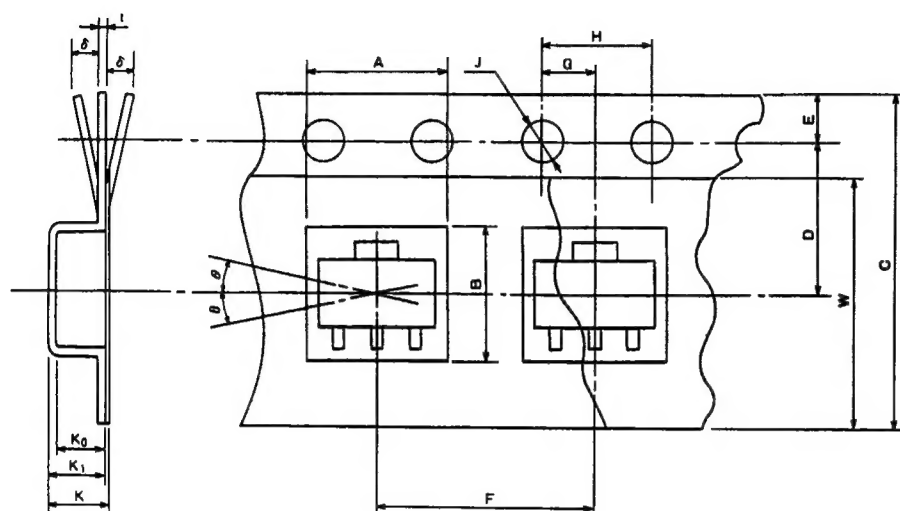| Description of symbol	Symbol	Dimensions (Unit:mm)	Remark
Product width	A1	5.0 MAX	
Product height	A	5.0 MAX	
Product thickness	T	3.7 MAX	
Lead wire diameter	d	0.6 MAX	
Sticker lead wire length (1)	W3	2.5 MIN	
Sticker lead wire length (2)	W4	2.0 MIN	
Pitch between products	P	12.7 ± 1.0	
Feed hole pitch	P_0	12.7 ± 0.3	The cumulative pitch error is ± 1mm per 20 pitches.
Feed hole deviation (1)	P2	6.35 ± 1.3	
Distance between lead wires	F1, F2	2.5 ± 0.4	
Defective product (1)	$\triangle h$	0 ± 2.0	
Tape width	W	$18.0 \pm^{1.0}_{0.5}$	
Sticker tape width	W_0	6.0 ± 0.5	
Feed hole deviation (2)	W1	9.0 ± 0.5	
Sticker tape deviation	W2	0.5 MAX	
Position of product bottom surface	H	17.5 MIN	
Lynch height of lead wire	H_0	16.0 ± 0.5	
Feed hole diameter	D_0	4.0 ± 0.2	
Tape thickness	t	0.7 ± 0.2	
Defective product (2)	$\triangle C$	0 ± 1.0	

xl

POWEREX INC

POWEREX

T-91-01

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Powerex Semiconductor Data Book
Taping

SOT-89 Package

Thyristor
CR08AS

Taping dimensions

Description of symbol		Symbol	Dimensions/angles Unit:mm	Remark
Parts insertion Concave square hole	Height	A	$5.0 \pm ^{0.1}_{0.1}$	Cross-section of the surface 0.5mm above the inner bottom
	Width	B	$4.6 \pm ^{0.1}_{0.1}$	Cross-section of the surface 0.5mm above the inner bottom
	Depth	K_0	1.8 ± 0.1	Inner space
	Pitch	F	8.0 ± 0.1	Cumulative error +0.1/−0.3 MAX/10 pitches
Round feed hole	Diameter	J	$\phi 1.5 \pm ^{0.1}_{0.05}$	
	Pitch	H	4.0 ± 0.1	Cumulative error +0.1/−0.3 MAX/10 pitches
	Position	E	1.5 ± 0.1	Distance between the tape edge and the hole center
Distance between center lines	Vertical	G	2.0 ± 0.5	Center line of concave square hole and round feed hole
	Horizontal	D	5.65 ± 0.05	Center line of concave square hole and round feed hole
Cover tape	Width	W	$9.5 + 0.3/-0$	Thickness: 0.1 MAX
Carrier tape	Width	C	12 ± 0.2	Warp $\delta 0.3$ MAX
	Thickness	t	0.3 ± 0.05	
	Package hole depth	K_1	2.1 ± 0.1	
Device	Package dimensions	—	—	As shown in (e)
	Inclination	θ	30° MAX.	
Total Thickness		K	2.3 ± 0.1	Total thickness including cover and carrier tapes